

REMARKS

These Remarks are in reply to the Office Action mailed February 3, 2005. Claims 1-22 were pending in the Application prior to the outstanding Office Action. No claims are being amended, canceled or added at this time. Accordingly, claims 1-22 remain pending for the Examiner's consideration, with claims 1 and 16 being independent.

Based on the following remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections and objections.

I. Provisional Non-Statutory Double Patenting Rejection

Claims 1-22 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of co-pending U.S. Patent Application No. 10/620,971.

Applicant is timely filing a terminal disclaimer herewith, and thus, respectfully requests withdrawal of this rejection.

II. Objection to Specification

The specification was objected to for missing some patent application numbers in the "Cross Reference to Related Applications" section.

The specification was also objected to for not describing FIGS. 12 and 13 in the Brief Description of the Drawings section.

The specification has been amended to overcome these objections. Accordingly, it is respectfully requested that these objections be withdrawn.

III. Requested Reference

Relevant portions of the Franklin reference, noted on page 20 of the specification, are included herewith per the request of the Examiner.

IV. Rejection Under 35 U.S.C. § 102(b)

The only prior art rejection in the Office Action was the rejection of claim 1 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,155,199 to Bang (hereafter "Bang").

More specifically, it was alleged that "Bang shows a servo demodulation system comprising a first servo demodulator (col. 4, ll. 3-22), and a second servo demodulator (col. 4, ll. 44-67, et. seq., col. 5, ll. 29-35)."

There were no additional details provided for this rejection.

For at least the following reasons, Applicant respectfully traverses this rejection.

V. Summary of Specific Embodiments of Claimed Invention

As explained in paragraphs [0120] - [0121] and shown in FIG. 13 of the present application, a servo demodulation system, according to an embodiment of the present invention, includes first and second servo demodulators 404A and 404B. Because each servo demodulator 404A and 404B can use its own set of servo demodulation parameters when searching for a SAM pattern, the set of servo demodulation parameters used by servo demodulator 404A can be different than the set of servo demodulation parameters used by servo demodulator 404B. More specifically, the first servo demodulator (e.g., 404A in FIG. 13) uses a first set of servo demodulation detection parameters to search for the SAM pattern; and the second servo demodulator (e.g., 404B in FIG. 13) uses a second set of servo demodulation parameters to search for the SAM pattern, wherein at least one servo demodulation parameter in the second set is different than a corresponding parameter in the first set.

Servo demodulation parameters can include, e.g., channel control values, such as servo AGC and servo PLL values. Servo AGC values can be gain values (e.g., starting values or update values), filter coefficient values, filter accumulation path values, etc. A servo PLL value can be, for example, a starting PLL frequency value or a PLL update value. Other examples of servo demodulation parameters include, but are not limited to, bit-detection threshold, SAM confidence threshold and finite impulse response (FIR) filter coefficient values.

By using two sets of servo demodulation parameters to search for the SAM pattern, the chance of the servo demodulation system detecting the SAM pattern is increased, thereby increasing the robustness of the system. If both the first and second servo demodulators detect

the SAM pattern, then various techniques can be used to select one of detected SAM patterns, as explained in the present application.

VI. Discussion of Claim 1

Claim 1 is reproduce below for the convenience of the Examiner.

1. *A servo demodulation system, comprising:*

a first servo demodulator adapted to search for a servo address mark (SAM) pattern using a first set of servo demodulation detection parameters; and

a second servo demodulator adapted to search for the SAM pattern using a second set of servo demodulation parameters, wherein at least one servo demodulation parameter in the second set is different than a corresponding parameter in the first set.

In the Office Action, it was asserted that column 4, lines 3-22 of Bang disclose "a first servo demodulator adapted to search for a servo address mark (SAM) pattern using a first set of servo demodulation detection parameters," which is required by claim 1. This portion of Bang states that a disk recording apparatus includes a SAM detection circuit 18 to detects a servo address mark (SAM) or a fault servo address mark (FSAM) within a servo sector (see Bang, column 4, lines 3-6 and FIG. 1). The SAM detection circuit 18 receives a SAM detection window signal from a SAM detection window generator 32, which appears to define the window during which the SAM detection circuit 18 searches for the SAM (see Bang, column 4, lines 23-30). When the SAM detection circuit 18 detects the SAM, it triggers a reference pulse generator 20 to generate a reference pulse to start a main counter 22 (see Bang, column 4, lines 32-35).

It was also asserted that column 4, lines 44-67 et. seq. and column 5, lines 29-35 of Bang disclose "a second servo demodulator adapted to search for the SAM pattern using a second set of servo demodulation parameters, wherein at least one servo demodulation parameter in the

second set is different than a corresponding parameter in the first set," which is required by claim 1. For the reasons discussed below, Applicant respectfully disagrees with this assertion.

Column 4, lines 44-67 of Bang describe, with reference to FIGS. 4A-4I, the case where the SAM detection circuit 18 misses the detection of the SAM pattern. More specifically, when the detection of the SAM pattern is missed, the output of the SAM detection circuit 18 is maintained at a high level, as shown in FIG. 4D. An output signal called a fault servo address mark (FSAM) is applied to the CPU, which transfers a control signal to the SAM detection window generator 32 to generate a pseudo SAM (PSAM) at the end of a SAM window region, as shown by the waveform in FIG. 4F. Also explained is that the SAM detection circuit 18 misinterprets the PSAM as a SAM so as to drop its output from high to low.

Column 5, lines 29-35 of Bang explains that the SAM detection circuit 18 detects a SAM or FSAM "to recognize a particular pattern of the servo section, which is synchronized and applied to the reference pulse generator 20 to generate a reference pulse to start a counting operation of the main counter 22."

Applicant is unclear how column 4, lines 44-67 et. seq. of Bang and/or column 5, lines 29-35 of Bang, or any other portion of Bang, teach or suggest "a **second** servo demodulator adapted to search for the SAM pattern." Further, Applicant is unclear how these portions of Bang, or any other portion of Bang, teach or suggest that a second servo demodulator uses "a second set of servo demodulation parameters" to search for the SAM pattern "wherein **at least one servo demodulation parameter in the second set is different than a corresponding parameter in the first set**", as is required by claim 1.

It appears that the only thing in Bang that can search for the SAM pattern is the SAM detection circuit 18. However, Bang does not teach or suggest that there are two SAM detection circuits. Further, Bang does not teach or suggest that the SAM pattern is searched for using "a first set of servo demodulation detection parameters" as well as "a second set of servo demodulation parameters, wherein at least one servo demodulation parameter in the second set is different than a corresponding parameter in the first set." Accordingly, Applicant respectfully requests that the 102(b) rejection of claim 1 be withdrawn.

Should the Examiner maintain the rejection of claim 1, Applicant respectfully requests that the Examiner explain in more detail how he is interpreting Bang to teach the above mentioned features of claim 1.

VII. Discussion of Claims 2-22

The only rejection of claims 2-22 was the non-statutory double patenting rejection, discussed above. As mentioned above, Applicant is timely filing a Terminal Disclaimer herewith, which should overcome this rejection. Accordingly, Applicant believes that there are no remaining rejections of these claims.

VIII. Conclusion

In light of the above, it is respectfully requested that all outstanding rejections and objections be reconsidered and withdrawn. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response which may be required.

Respectfully submitted,

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